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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 09/204,706 | 12/03/1998 | RAVIKUMAR RAMACHANDRAN | 98-P-7501-US | 5853 |

7590 12/18/2001
The Law Office of Jerome J Norris
1901 Pennsylvania Avenue Suite 305
Washington, DC 20006

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| EXAMINER |
| OLSEN, ALLAN W |

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| ART UNIT | PAPER NUMBER |
| 1746 | |

DATE MAILED: 12/18/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

MF-18

Office Action Summary

Application No.

09/204,706

Applicant(s)

RAMACHANDRAN ET AL.

Examiner

Allan W. Olsen

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Prosecution Application

The request filed on 11/1/2001 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/204,706 is acceptable and a CPA has been established. An action on the CPA follows.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites the limitation "[t]he integration metal etch tool of claim 13...". There is insufficient antecedent basis for this limitation because claim 13 recites "an integrated metal etch tool".

Examiner's Note Regarding Claim Interpretation and 35 USC § 112 6th Paragraph

The instant claims are drafted using "means to..." and "means for..." language. However, the claims do not invoke the 6th paragraph of 35 USC 112 because they fail to meet the third prong of the three prong analysis detailed in MPEP 2181.

A claim limitation will be interpreted to invoke 35 U.S.C. 112, sixth paragraph if it meets the following 3-prong analysis:

- (A) – the claim limitations must use the phrase “means for ” or “step for ”;
- (B) - the “means for ” or “step for ” must be modified by functional language;
and
- C) - the phrase “means for ” or “step for ” must not be modified by sufficient structure, material or acts for achieving the specified function.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13-17 are rejected under 35 U.S.C. 102(b) as being anticipated by U.

S. Patent 5,545,289 issued to Chen et al. (hereinafter, Chen).

Claim 13: Chen teaches an integrated RIE metal etching apparatus (column 12, lines 1-2, 30-36). Chen does not use the word “integrated”, nevertheless, the apparatus of Chen contains an etching chamber (not pictured) which is connected to a separate passivating and stripping chamber (column 12, lines 3-8). The apparatus of Chen contains the necessary components to supply a mixture of an etching gas and an acid neutralizing gas into a vacuum chamber (column 13, lines 39-41). Chen demonstrates that the passivating chamber, which is separate from the etching chamber, is capable of forming a water-only plasma (column 17, Table VI, examples 43-45). Chen’s apparatus

includes a plasma generation zone that is remote from the substrate supporting structure (see figure 2, column 5, line 66-column 6, line 8). The citations noted above teach each apparatus limitation of instant claim 13.

Claims 14 and 15: Chen teaches that the temperature of a substrate contained within the separate chamber may be controlled within the range of 150/C to 400/C. The temperature may be held constant or the temperature may be varied. As such, Chen meets the apparatus limitations of claims 14 and 15.

Claims 16 and 17 contain no apparatus limitation that was not previously presented in claims 13-15. Therefore, the above noted column and line citation of Chen are applicable to claims 16 and 17 as well.

Claims 13-17 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 4,816,098 issued to Davis et al. (hereinafter, Davis).

Davis teaches a multi-chamber apparatus. The vacuum chambers of Davis include: gas supply lines; remote plasma generation means; substrate heating means; and substrate temperature controlling means. The apparatus of Davis contains all the components to meet the apparatus limitations of claims 13-17. Furthermore, these components are arranged such that the apparatus of Davis is capable of performing the method limitations set forth in claims 13-17. See column 60, lines 34-54; column 44, lines 33-47.

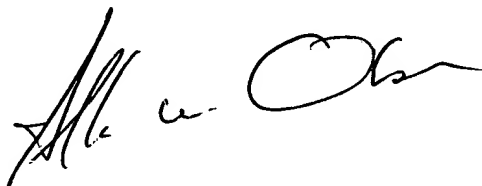
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allan Olsen whose telephone number is (703) 306-9075. The examiner can normally be reached on Monday through Friday from 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, can be reached on (703) 308-4333. The fax phone number for this Group is (703) 305-7719.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Allan Olsen, Ph.D.
December 17, 2001

A handwritten signature in black ink, appearing to read "Allan Olsen", is written over the typed name and date.